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VOLUME VII FEBRUARY, 1923 NO. 2

SOUTHWESTERN MEDICINE

Official Organ of the New Mexico Medical Society, Arizona State Medical Association, El Paso County (Texas) Medical Society and the Medical and Surgical Association of the Southwest

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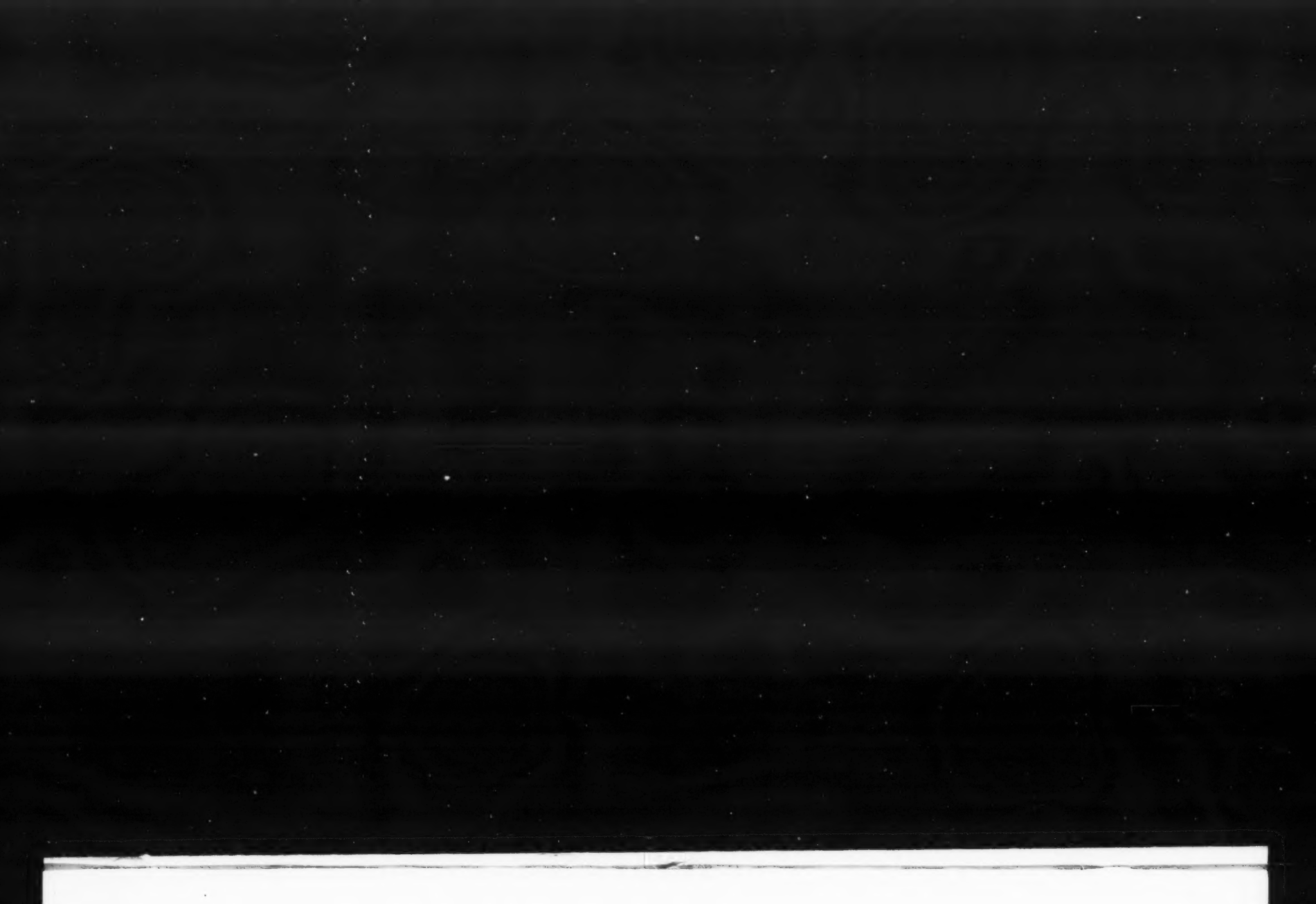

Southwestern Medicine

PUBLISHED MONTHLY

VOL. VII. FEBRUARY, 1923 No. 2

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THE COUNTY SECRETARY

The most important officers in medical organization affairs are, undoubtedly, the county secretaries. Once in a long period a county society is fortunate enough to secure a secretary who will take his duties seriously and perform them faithfully.

Probably the most important duty of the secretary of any county society is to see that the activities of his organization are properly recorded *and published.* SOUTHWESTERN MEDICINE is published by, for and in the interest of the *county societies* of the southwest. To record, in the pages of this journal, the activities of the society should be the chief and most important duty of each county secretary.

At the present time, there is not in Arizona, New Mexico, or western Texas, a single county secretary who is attending to his duty. Since Dr. Rheinheimer retired, a sickly silence has come over the El Paso County Society. A personal effort on the part of Dr. Elder and the editor of the journal, in New Mexico, has brought forth only vivid evidence of the sad demise of several county societies and the rapid decline of the remainder. In Arizona, letters, telegrams and personal solicitation of all the county secretaries have been of no avail, and we can only hang crepe on the domiciles of all the county societies of that state.

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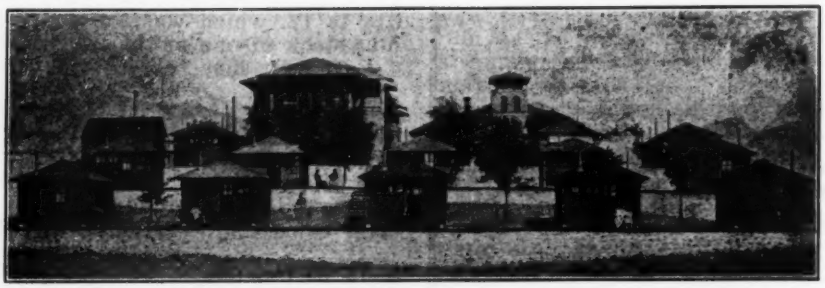

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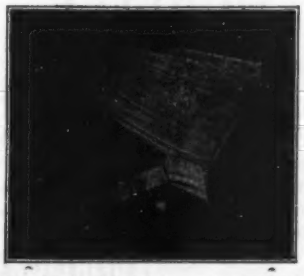

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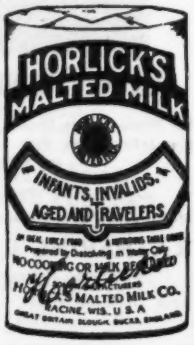

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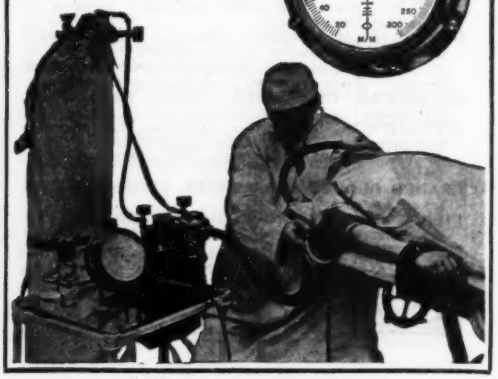

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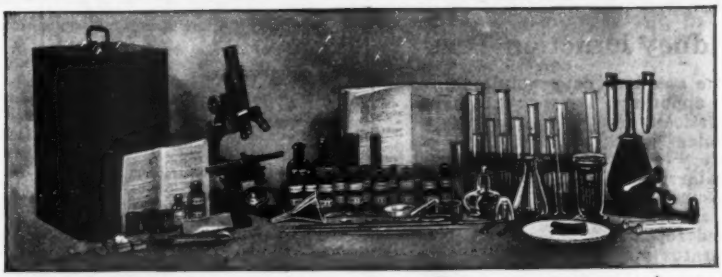

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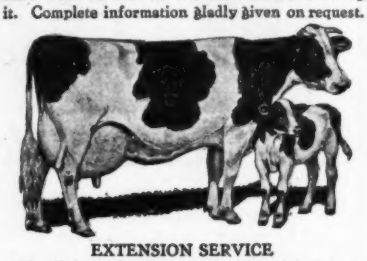

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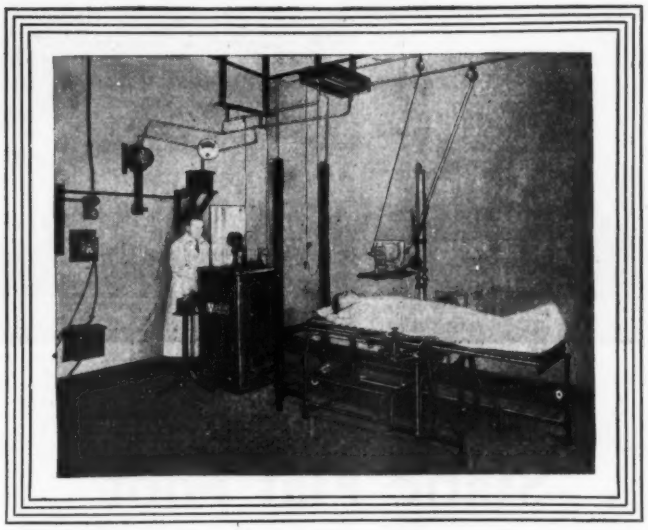

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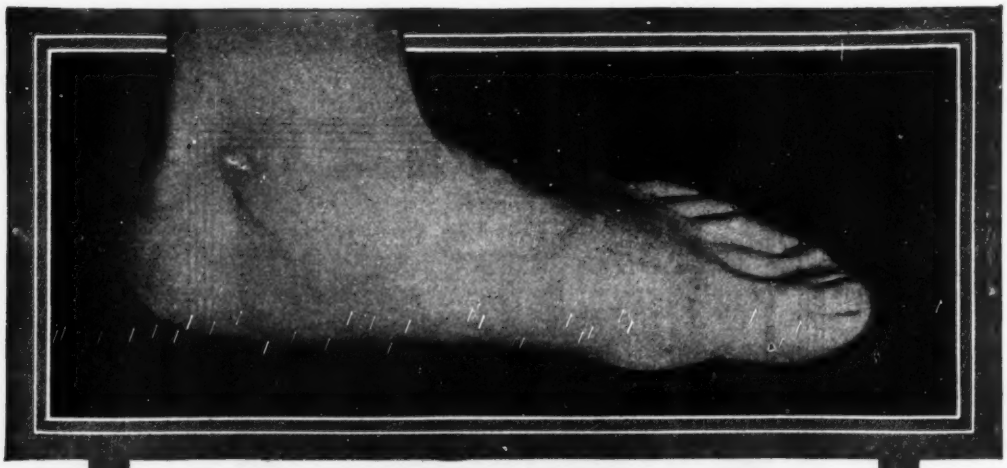

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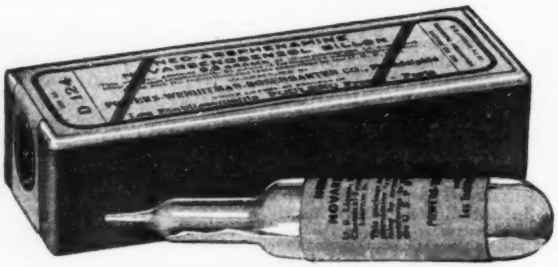

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SUPERRADIATION WITH VOLTAGES OF 200,000 AND OVER*

ALBERT SOILAND, M. D., F. A. C. P., Los Angeles.

One of the healthful signs of medical progress is the earnest attention now being shown the new short-wave x-ray development, better known as high-voltage deep therapy. Just how far this movement will extend is, as yet, purely conjectural, but that, through it, we have already attained a higher degre of therapeutic accomplishment is a significant fact.

Before we analyze the clinical aspect of superradiation, let us briefly visualize the requirements necessary for the radiologist who essays modern deep roentgen therapy. First and foremost, he must be a medical man of average intellect, preferably one with a well-rounded clinical experience. Second, he must know the fundamentals of physical law and have also sufficient mechanical ability personally to cope with every phase of installation, manipulation, and maintenance of a modern high-voltage generating set. Third, he must have sufficient means to supply himself with a mass of apparatus and accessories, that is constantly increasing, both in amount and price.

He is indeed fortunate who possesses all three of these cardinal requirements, for to him and his collaborators we shall look for data which will, in time, give us reliable clinical facts upon which we can build up a sound therapeutic platform for superradiation. In the meantime, those of us who fall short more or less in the prerequisites named are going to be derelict in our duty to this science in exact proportion to our failure to meet these requirements.

It may be noted with some satisfaction that medical articles dealing with deep roentgen therapy maintain, with a few exceptions, a conservative tone, and that few claims are made which might be termed extravagant. This statement is particularly true of recent American literature. Some of the exceptions alluded to are not all of the vicious type, but are rather the result of a degree of pardonable overenthusiasm which will become properly dampened in the school of hard experience.

From the physical side of our subject, the present available treatment tube is limited to a voltage not in excess of 240,000, an amount, however, which has been found ample to give an inexhaustible supply of short-wave radiation of homogeneous character and approaching in no small way the penetrating gamma radiation from radium.

Careful measurements of x-rays produced by voltages of 200,000 and over have determined that a dose can be delivered to a point ten cm. be-

(**Read before the Los Angeles County Medical Society.*)

neath the skin surface, in an amount approximating 45 per cent of the surface erythema dose. This means that it is possible to inundate the deeper tissues with the energy of radiation, in a manner which, heretofore, has been impossible. It is, therefore, not unreasonable to assume that in the not distant future, tubes will be devised which may safely be operated at voltages sufficiently high to permit nearly 100 per cent of the surface radiation to reach any desired level. In this eventuality, it may be necessary to reconstruct our entire present-day knowledge and use of short-wave therapy. Meanwhile, we must be alert to separate the wheat from the chaff and bend our energies towards a solution of the problems now almost within our grasp.

Measurements of the electrical factors which enter into the construction of x-ray energy are easily obtained, and the mathematical computation of wave forms, penetration, depth dose and allied factors is also conceded, but the fact remains that we are still unable accurately to determine beforehand the physiological response of any individual patient to a so-called measured massive dose of x-ir-radiation. In other words, we can measure and control every complex step of our operation, except that of the biological reaction of the living human cell, and until this is mastered, our efforts must necessarily be more or less empirical.

The clinical side of superradiation is alive with possibilities, and he who undertakes at this early hour to place a visionary finis upon the x-ray horizon, is not imbued with the proper spirit to essay progressive and constructive work with short-wave therapy.

During the recent months in which superradiation has been on probation in America, many extraordinary events have been chronicled. In a few quarters, unwarranted and immature statements have come forth, claiming cures of incurable conditions. These have antagonized and rendered prejudicial to the cause many of our leading clinicians. This attitude naturally reacts unfavorably upon the conservative radiologist, who is plodding along with painstaking care in an effort to adjust and make the highest possible use of his rapidly advancing science.

Statistics and case reports are frequently uninteresting, but are essential to a proper analysis of the status of any medical undertaking. The statistical project, in this instance, is undeveloped, but many valuable lessons may be learned from a careful record of case reports by men who are conscientiously working with high voltages.

The writer will, therefore, make a few comments from personal observation, covering the types of lesions most suitable to this treatment.

The uterus seems to be peculiarly vulnerable to radiation, and favorable results may be expected in a majority of fibroid and myomatous conditions, both hemorrhagic and otherwise. One erythema dose delivered to the offending mass is sufficient in the average case, and this amount rarely subjects the patient to any irritative intestinal sequellae. Experience is teaching us that this dose should be administered within as brief a time interval as permissible, not to exceed two weeks.

The writer has seen approximately fifty patients with myomatous and fibroid uteri in his own service since instituting deep therapy, and in none of these have any serious consequences been observed. On the contrary, the outcome has been generally satisfactory.

With the cancer of the uterus, however, the results are as yet questionable, although actual cures are being recorded. In these cases, the single erythema dose is insufficient, and in our effort to destroy every cell in situ, it may be necessary to apply two or more full erythema doses.

Then comes the question of possible injury to overlying and contiguous normal structures. While such injuries may in certain instances be disregarded, particularly in patients al-

ready beyond recovery, yet our responsibility must not be lost sight of, and the fact still remains that irreparable damage occasionally follows the complete destruction of the cancer mass.

On the other hand, with the improvement of technic and centralized homogeneous radiation, it may be possible to overcome these dangers. The principal dangers alluded to are lymphatic sclerosis, leukopenia, ulceration of the bowel, and toxic anemias.

The writer has under immediate observation a number of irradiated uterine cancer patients, some of whom are clinically free from all symptoms, yet he feels that time is far too short to make any claims of cure. It may truthfully be stated, however, that the outlook is now much more hopeful than at any other previous time.

In these cases, radium is of undoubted value in that we may secure direct radiation within the uterine cavity. Supplemented by deep x-ray therapy, from three external portals of entry, we can inundate every recess of the pelvic cavity, and obtain a possible cure in otherwise inoperable and incurable cancers.

In the breast, we have an exceedingly difficult problem to solve. As compared to the uterus, the percentage of benign growths is pitifully small, and the radiologist is most frequently confronted with a post-operative recurrent cancer of the breast that is beyond any apparent present human help. Even in such cases, we must keep up a bold front and use our utmost endeavor, with the occasional reward of seeing some of these unfortunates improve sufficiently to make our efforts distinctly worth while.

With the primary and less extensive involvements, the picture is not so gloomy and the results are now beginning to compare favorably with operative treatment. Up to a comparatively recent time, the writer advised surgical operations upon all primary growths in the breast, even if axillary nodes were present. Today, after reviewing twenty years' work, using radiation both alone and in conjunction with surgery, he believes that patients with cancer of the breast already metastasized live longer and are more comfortable without surgery. Conversely, it is not the intention to convey the thought that such cases are cured by radiation; nevertheless, recent post-mortem studies have shown that metastasized glands previously subjected to radiation become cicatrized and free from cancer cells; surely this is a ray of light in a dark field.

In the fall of 1902, just twenty years ago, Dr. W. W. Hitchcock of Los Angeles removed the right breasts of two women patients. One of these had an ulcerative carcinoma with axillary and cervical gland metastases. The other had a similar condition, minus the ulceration. These patients while still under the anesthetic, and with the freshly made wound wide open, were both subjected by the writer to a twenty-minute exposure of x-rays, directly over the operative field, and without any protective measures, except to the patient's eyes and heads. The apparatus used was a twelve-inch spark coil, and electrolytic break, with what was then called a hard tube, at about an eight-inch focal skin distance without filters. The reason for citing in detail this incident is to call attention to the fact that here was an early attempt at deep therapy under the most favorable conditions then possible. It is satisfying to note that both these patients are today alive and well without the slightest sign of recurrences.

It is conceded that these cases may prove nothing, but it is equally true that surgical cure of the conditions existing in the two cases named is so rare as to make the occurrence alluded to of a singular significance, particularly so in the light of our recent observations with modern deep roentgen therapy.

With sarcomata of wide range, the

achievements of superradiation are well known, and it appears that these tumors, particularly the round-celled variety, are quite amenable. If attacked in primary location, they frequently are subdued.

When cancer is localized, it may be successfully combated with surgery and also with radiation. When generalized, it is palpably inoperable and also immune to radiation. Evidence is accumulating, however, that superradiation in the latter instance is more serviceable to the patient than surgery. In a brief discussion, such as this one, it is, of course, impossible to cover all the ramifications of this interesting study.

In so far as we can now foresee, short-wave therapy, within reasonable limits, may be safely pushed through the skin. The heavy filters employed effectively block the long waves which are ordinarily absorbed with expended energy in the skin. Before broadcasting superradiation, however, we shall have to become much better acquainted with its effects on remote structures. It will be essential to study the action upon the blood cells, and the blood-forming organs, and carefully survey the changes taking place in the endocrine glands, with a view of eliminating, if possible, the irritating factors at work. This is particularly important when our attention is directed to the destructive changes which sometimes take place in the mucosa of the large bowel.

In conclusion, we ask the earnest co-operation of the medical fraternity in our efforts to stabilize and properly placard the therapeutic possibilities of superradiation.

TUMORS OF THE EYE*

D. F. HARBRIDGE, M. D., Phoenix, Ariz.

The purpose of this communication is to call attention to the more frequently encountered tumors of the eye. It, perchance, will refresh your mind to the need, in certain instances, of greater urgency in making an early diagnosis and either to eliminate the mass or remove the organ.

All parts of the eye and its appendages may be subject to invasion by new growths, varying widely in type and location. Snell's patient, reported in 1916, was a case of unusual interest in that the growth was a large epibulbar melanosarcoma occupying two-thirds of the nasal limbus and overlying a good portion of the cornea. The mass had eight distinct lobes each supplied by a separate blood vessel.

In general, we arbitrarily refer to growths involving the appendages and external parts and to those of the intraocular structures. In instances, particularly neglected cases, all parts may eventually become more or less involved. Much the greater proportion of growths encountered are malignant, some more highly than others. Many of those which may be classed as non-malignant, if not treated, cause wide spread destruction, largely by mechanical means. Of the external growths, a good portion are non-malignant, or only mildly malignant, yet all should be removed as there are no means of determining just how soon they may take on a malignant character. Of the intraocular types, by far the greatest percentage are malignant, which, of course, demand immediate removal of the organ.

(*Read before the Maricopa County Medical Society, Phoenix, Ariz.)

During the past three years, there have been about ninety-three papers or reports of tumor cases in current ophthalmic literature. Fully two-thirds of all reported cases were malignant; about one-half were intraocular. One-third were represented by the various types of sarcoma, followed next in frequency by neuroepithelioma.

Eleven of these papers came to us from Japan. Komoto, in the Nippon Gankakai Zashi, contributes to our knowledge of primary uveal tract sarcoma with notes concerning one hundred cases.

Regarding tumors affecting the external parts, both malignant and benign growths of the lids, caruncle, conjunctiva, cornea, sclera and orbit have been observed. Papilloma of the lids is of comparatively frequent occurrence. Freytag observed it in a child, aged four years, which relapsed several times after excision. Angioma, lymphoma, moles, epithelioma and sarcoma are occasionally encountered. The last named tumor, according to the number of reported cases, indicates the condition as uncommon. About eighty to eighty-five cases have been collected by Wilmer, Veasey, Alling and de Schweinitz.

According to Birch-Hirschfeld's observation, most of the growths of the lachrymal gland are mixed tumors. He reports removing one successfully in a man aged 57 years. Some years ago, at my clinic at the Chester Hospital, I observed a patient with symmetrical lymphomata of the lachrymal glands (Mikulicz's disease) in a colored girl aged 17 years. Many of the glands of the body were palpable, including the parotids. At the site of the lachrymal glands were large masses giving the peculiar drooping at the angles of the lids resembling the eyes of a blood hound. This was the second case I had observed, the first being one of which Dr. Posey showed several years ago at the Wills Hospital. No cases were reported during 1917, but the year previous, Dr. Posey reported one, in a colored girl, in which positive tubercular and syphilitic reactions were obtained. However, Posey agrees with those observers who believe that in view of the fact that no specific bacteria has been discovered, the condition is probably chemotactic.

Valli observed large papilloma of the limbus with invasion of the cornea, in three patients, aged 67 years, 56 years, and 54 years. The masses had been present 10 years, 6 years, and 3 years respectively. They were 10x12 m. m. in extent. Excision and galvano-cautery were used. The papillary character of the tumors was well marked, microscopically. Marchi described two interesting cases of small tumor developing on the pannus, in eyes affected with trachoma. The masses were composed of plasma cells with an abundance of new formed blood vessels.

Epibulbar sarcoma, epithelioma, lymphoma, fibroma and dermoids are at times observed. The last named growth afforded me an interesting experience on one occasion. The patient, an Italian, was seen at my clinic at the Chester Hospital. He complained of a small swelling under the upper lid of the left eye, which had been present as long as he could remember. A tentative diagnosis of cyst, possibly dermoid, was made and yet, owing to the unusual location, just to the nasal side of the median line, the question of an encephalocele was considered. The mass was comparatively small and easily compressible against the eye ball. The small finger was unable to detect any opening in the bony orbital wall in the frontal nasal region. Believing I was dealing with a small superficial cyst; after a few instillations of cocain, I proceeded to remove the same. In a very short time I discovered how completely I had miscalculated the extent of the mass. It was necessary greatly to enlarge the field of operation, forcibly rotating the eye outward and downward and to carry my dissection well in toward the apex of the orbit. Microscopic examination showed a dermoid cyst.

Growths involving the external parts have been treated in a variety of ways; some by excision; others, as in the cases of epibulbar epithelioma reported

by Collins and also Heckel, by the use of radium. Massey recommends zinc ionization. Galvano-cautery has been used. Several of my cases have been treated very successfully by Clark's method of desiccation. It seems to me a most efficient and desirable form of treatment, the advantages being better cosmetic effect, no hemorrhage, it can be repeated and a large or small area can be attacked without the danger of a contracted cicatrix. Most growths can be removed without an anesthetic but, if desirable, a local anesthetic can be used.

Abscesses, tubercular tumors, angioma, osteoma and intradural tumors, (cystic, fibrous, or glia tissue) of the orbit, all produce distortion of the eye ball, not only forward but in most cases deviation from the primary position depending upon the location of the growth. Of the osteomata, the majority are attached at points around the orbital margin. In Blanco's one case and Cirincione's series of three cases, the growths were removed with comparative ease and little disturbance except in one case of the latter's. In this the bony mass practically filled the orbit. The operation practically consisted in excavating a new orbital cavity.

At the solicitation of Dr. Bakes, of Phoenix, I was asked in consultation to examine a baby girl, aged nine months. The parents stated that when the baby was two months old they noticed the left eye rather prominent. This gradually increased until it had assumed a position of great prominence. The lids did not close the fissure by several m. m. Not any of the superficial vessels were engorged. The globe was directed forward, did not deviate and was not compressible. It moved in harmony with its fellow. The iris responded actively to light. The baby would direct the eye toward any bright object. The fundus appeared normal except, perhaps, moderately full veins. The radiograph was defective and gave no information. Owing to the absence of inflammatory signs, the moderately slow growth, and position of the eye directly forward, a diagnosis of intradural growth, or at least a mass in the muscle cone was made, the character of the mass, possibly being cystic, fibrous or composed of glia tissue. An opportunity to confirm the diagnosis was not obtained as the parents refused operative interference.

The comparative infrequency of intraocular growths in the routine experience of the oculist, compels one to turn to literature for much of his information. In considering the subject of intraocular growths, particularly those of a malignant type, it is well for us to bear in mind the fact that they are of more than local importance, as they frequently establish a clew to obscure pathology in other parts of the body. The metastasis frequently observed in sarcoma and neuroepithelioma are good illustrations. Early diagnosis, followed by immediate operative interference, has given to the ophthalmic surgeon a greater percentage of recoveries and freedom from transference to other parts of the body, than has general surgery. The reason for this is the fact that, early, the tumor is confined within a tough fibrous capsule, the sclera.

It is the part of wisdom to remember that an adult's eye with a history of being blind suddenly becoming inflamed, hard and painful, is an object of serious suspicion, for frequently the smallest tumor can excite a glaucomatous attack. McGuire's first case of his series, published the past year, demonstrates the importance of this observation. His patient suffered a severe glaucomatous attack but, owing to the very hazy cornea, he was unable to examine the fundus. The fellow eye showed a large, deep suspicious cupping of the optic nerve, but no inflammatory symptoms. The field was good. Iridectomy was performed upon the inflamed eye without beneficial results. Enucleation revealed a sarcoma.

With the exception of tuberculous and gummatous growths, primary tumors of the iris and ciliary body are very rare. Bell observed a primary melanosarcoma of the iris, the eye being in the inflammatory or second stage. The

diagnosis was confirmed microscopically, following enucleation. The condition is unusual. Fuch found primary sarcoma once in sixteen cases of uveal tract sarcoma. Moorfield Hospital reports showed one such lesion in 103 cases. Fuch suggests that if the growth is small it may be removed by iridectomy. This measure seems to me to be a dangerous procedure in that, owing to the opening of the blood stream, tumor cells might invade the ciliary region. As a diagnostic aid it is permissible, but the only safe thing to do is to sacrifice the eye. During the past year four reports of sarcoma of the iris appeared in current literature. Brown's case reported in 1916, which was diagnosed as glioma proved, upon enucleation, to be a bony tumor springing from the ciliary body. It was probably fetal in origin and was observed in a girl of 18 years. Neeper could find no primary focus in his reported case of carcinoma of the ciliary body. This is a most unusual observation, for authorities are agreed that the condition is always metastatic. It is an interesting observation in view of the frequency with which cancer is encountered in other parts of the body, that even metastatic cases are rare. One theory in explanation of this is the complicated manner in which the blood stream enters the eye.

Regarding the more frequently observed condition affecting the iris, namely, gumma or papulosa, the following case history is of interest in certain details.

D. A., aged 32 years, M. S., first observed December 26, 1917. Initial lesion early in June, 1917. In October, he had an attack of iritis, first in one eye then in its fellow. Subsequent to this inflammation the eyes apparently became quiet and remained so until about December 20th at which time the left became painful. Examination showed right pupil dilated, kidney shape, synechia, and several pigment spots on the anterior capsule. Left pupil under atropine dilated poorly. To the temple side there was a broad band like attachment between the iris and the anterior capsule, the pigment border of the iris being free. Overlying this and placed rather more on the ciliary zone side of the lesser circle was a yellowish brown mass, apparently pushing up from the crypts in the stroma of the iris. Deposits in Decemet's membrane were discrete, disc shape areas, larger, denser and not so numerous as in the usual type. The mass, about 3x4 m. m. in extent apparently sprang from near the center of the iris. It was single. Two weeks after having been first observed, the mass perhaps a trifle larger, the patient developed a severe temple pain. I do not remember ever having seen a patient suffer so acutely as he did for the next three days. The entire temple region was suffused with blood, the superficial vessels standing out prominently. With the herteloupe 2 to 2½ ounces of blood were withdrawn, ¼ gr. doses of morphine were administered hypodermically five or six times the first 12 hours. Subsequent to this attack the mass began to lessen in size, and at the end of a month, practically disappeared, leaving a small area in which the pigment of the iris was absorbed and scarred. Two doses of salvarsan, iodide, mercurial ointment, and atropia were the remedies used.

I am inclined to believe this tumor mass partook more of the nature of true gumma rather than a late papulosa. There are features in favor of either view. It is quite common to refer to any elevation in the iris in syphilitic cases, as a gumma, but it seems to me the term should be reserved for the later and papulosa for the early stages. Papulosa usually occurs early; San Fernandez observed it as early as one month and as late as four years after the initial lesion. It is, as a rule, multiple, most frequently occupying the pupillary border, occasionally the periphery and much less frequently the lesser circle region. True gumma, which is far less common, is in many instances a much more serious matter. It occurs as one large mass, usually at the temple side, at the periphery of the iris, but has been observed in the lesser circle region. It leaves a minute scar and pigment absorption which remains. The adhesion to the anterior capsule is a broad band like rather than pigment spot like attachment. It is an indication of a more virulent type of infection and foreshadows later certain nervous disturbances. The greatly enlarged blind spot in the visual fields of this patient may be a forerunner of a confirmation of this opinion.

Doubtless a diagnosis of intraocular tumor of the deeper structures, in many cases, is never made, or at least only accidentally, as in Rumsay's third

case. Following an injury, the eye was removed, believing there was present a detached retina. Examination showed a spindle celled sarcoma. The order of frequency of occurrence of tumors of the choroid and retina is, sarcoma, neuroepithelioma and carcinoma, the latter being quite rare, and, as we stated, always metastatic; the former are usually primary and very prone to metastasize to other parts of the body.

The four stages of these growths are, invasion and detachment of the retina, inflammation and increased tension, rupture of the globe, and the stage of metastases. Regarding the increased tension, some authors make the statement that it is purely mechanical, owing to the increase in size of the mass. This hardly accounts for all glaucomatous attacks, for many cases are on record in which the growth was very small. A much more tenable explanation seems to be the theory of increased serous outpouring and the blocking of proper drainage, together with the location of the mass.

The striking feature in Jackson's recently reported case of sarcoma of the choroid was its duration—over fourteen years from the time sight was noticeably impaired and two and a half after glaucomatous symptoms had arisen until the eye was enucleated. Nettleship reported a case of twenty-four years' duration. In Kipps' cases the eye was enucleated twenty-two years after it was first advised.

This is in striking contrast with a case which I recently observed, but did not treat. In view of the above reports, I have wondered what influences, if any, the treatment had.

The parents of a girl, aged 10 years, stated that they had observed that the iris to the nasal side seemed pushed forward during the previous few weeks. Examination—Vision 6/6 T. N., perforating vessels slightly engorged. The iris to the nasal side was bowed forward. By oblique illumination, well under the cover of the iris was a small mass, giving a greenish reflex. Despite a negative Wassermann, three or four doses of salvarsan were administered, upon the advice of the family physician who had treated the father for syphilis twelve years previous. Tuberculin was administered for diagnostic purposes. Under the belief that both a general and local reaction was obtained, repeated doses of a considerable amount of O. T. were administered every three or four days for possibly three weeks. Within six weeks the mass had grown to very great size, pushing well over to the median line of the eye. Early glaucomatous symptoms developing, the eye was enucleated. Microscopic examination showed sarcoma.

In view of Jackson's paper intimating the long duration of sarcoma, I have wondered what influence, if any, the administration of tuberculin may have had in the matter of stimulating the growth to greater activity. In this connection it is interesting to note Hriam Woods' recently published experience with tuberculin, in the treatment of choroiditis, in which the condition was greatly aggravated.

Neuroepithelioma, or glioma, is not without interest. During the past year six contributions to literature have been made. In Ring's reported case interest centers in the great size, 20 inches in circumference, of the recurrent mass. The mass was removed by the bipolar d'Arsonval current using a chain snare. The operation was done in two stages, followed by roentgen therapy. The child lived five months. Metastases occurred in the region of the eighth and ninth vertebrae. Taylor & Fleming's case is of interest, not only owing to its being bilateral, but because of the metastatic findings in the brain and meninges, vertebrae, mesenteric glands and ovaries. Burrisford, in 1916, in his statistical report of the Royal London Ophthalmic Hospital, found that bilateral neuroepithelioma occurred in 14.6 per cent of cases. Wintersteiner's observations were that about 25 per cent occurred. Griffith found upon examining literature, a record of eight histories of transmitted neuroepithelioma. His own observation is of two families in which the tumor was transmitted by the mother. In the first history the mother lost one eye, and out of six living children, four had bilateral growth, while one lost one eye and one escaped. In the second family, the mother lost one eye, and of three living children, one was bilateral and two children unilateral.

Bilateral neuroepithelioma is pri-

mary in each eye and is not transmitted from one organ to the other. The growth starts from the two granular layers of the retina. The exophytum usually begins as minute nodes spreading along the subretinal space, forming a moundlike deposit. The endophytum, a protrusion of the whole mass with a rather irregular surface toward the vitreous. Neuroepithelioma has been observed shortly after birth and as late as the sixth year, two-thirds of the cases occurring before the third year. It is interesting to note that statistical reports from Moorfields' during five years showed that seven out of twenty-four eyes enucleated proved to be pseudo growths. In true tumor cases, the tension is plus, in pseudo growths it is minus; yet in Sidney Stephenson's case, which proved a pseudo tumor, the tension was plus one.

Thirteen per cent of cases survive. Regarding this matter, observations differ widely. Adams' published report in 1916 showed 54 per cent well after three years, while Wintersteiner found only 16 per cent. If a patient lives for over three years after the operation, it is considered safe. Yet recurrences have been noted as remote as five and a half year, and as early as one month after enucleation. Retrogression of the growth was observed by Meller and also Purtscher. A point of great importance, however, is to remove as long a piece of the nerve as possible, and have it examined microscopically. If any evidence of changes are present a complete exenteration is indicated. The case is more favorable if the growth has not passed beyond the lamina cribrosa.

CALIFORNIA INVITES THE SOUTHWESTERN MEDICINE READERS AND THEIR FRIENDS TO THE AMERICAN MEDICAL ASSOCIATION CONVENTION IN SAN FRANCISCO, JUNE 25 TO JUNE 29TH, 1923.

The California Medical Association has made contact with financial, civic, tourist and automobile agencies of the state in such a way as to make the invitation to attend the American Medical Association Convention an invitation from the State of California. All physicians everywhere, as well as members of their families and friends, will be made welcome. We invite you to come and request you to drop a note to the Headquarters' Office in care of the Chairman of the Committee of Arrangements, Dr. W. E. Musgrave, 806-9 Balboa Bldg., San Francisco, asking for any information regarding any subject whatsoever, and we will see that it is promptly furnished.

Physicians from all western states in particular are interested in making the San Francisco meeting, as well as future meetings on the west coast a success. Write to us and we will help plan your trip by automobile, train, or in any other way. We will be glad to make such hotel reservations as you desire, and to help you with the details of your visit to the state. We will supply you with expert information as to how you can spend one day, a week, a month, or a lifetime, in all parts or any part of California.

During the period from Thursday, June 21st, to Saturday, June 30th, in addition to the American Medical Association meeting, there will be at least six other National and District Meetings of various classes of medical organizations. These include the American Society of Tropical Medicine, the Radiological Society of North America, the American Radium Society, The California Medical Association, and a number of others.

THE RELATION OF DEVIATED SEPTA TO SUPPURATIVE OTITIS MEDIA*

DR. H. T. BAILEY, Phoenix, Ariz.

This paper is written primarily to show that suppurative otitis media occurs in adults on the side toward which the septum deviates.

In studying the relation of deviated septa to suppurative otitis media we should first review the anatomy, physiology and pathology of the septum, pharynx and Eustachian tube. This can best be done by a series of illustrations, selected from the literature.

Fig. 1 shows a side view of a septum with cartilage, vomer, perpendicular plate of ethmoid and crest of superior maxilla in normal position. Fig. 2 is a cross section showing septum and turbinates in normal position. Fig. 3 shows a side view of a deviated septum. Fig. 4 is a diagrammatic illustration of a deviation of the cartilaginous part. Fig. 5 is a vertical section showing a deviation of the vomer far back. Note the extension of the deviation down into the middle turbinate space. This is a condition which many times escapes notice because the anterior part of the septum is straight and the observer is prone to think it straight all the way back. However, the obstruction to breathing is as great in this as in other forms of deviation. Fig. 6 is a diagram of a deviation of the crest of the superior maxilla to the left, while the perpendicular plate and back part of cartilage bend to the opposite side, with the upper part to left again —an S curve. This shows the central part of septum fairly straight and here again the casual observer would say the nose is all right.

Fig. 7 shows a very thick septum above with sphenoid sinuses extend-

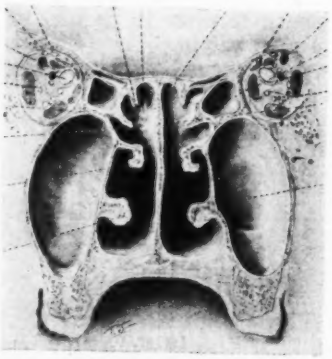

Fig. 2—Cross section, showing septum and turbinates in normal position. (From Loeb's Operative Surgery of the Nose, Throat and Ear.—Mosby.)

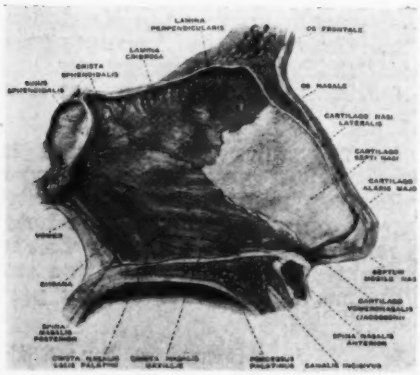

Fig. 1—The nasal septum. (From Loeb's Operative Surgery of the Nose, Throat and Ear.—Mosby.)

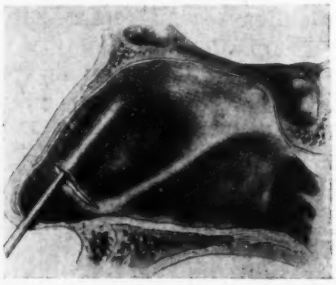

Fig. 3—Side view of a deviated septum. (From Loeb's Operative Surgery of the Nose, Throat and Ear.—Mosby.)

(**Read at the annual meeting of the Medical and Surgical Association of the Southwest, at El Paso, December 7-9, 1922.*)

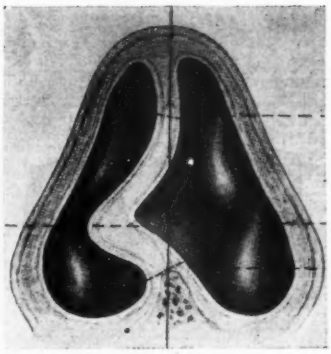

Fig. 4—Diagrammatic illustration of deviation of the cartilaginous septum. (From Loeb's Operative Surgery of the Nose, Throat and Ear.—Mosby.)

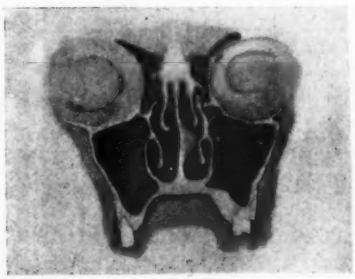

Fig. 5—Vertical section, showing deviation of vomer far back. (From Loeb's Operative Surgery of the Nose, Throat and Ear.—Mosby.)

Fig. 6—A diagrammatic representation of the sigmoid or S-shaped deflection. (From Phillips' Diseases of the Ear, Nose and Throat.—F. A. Davis Co.

ing down into it. This very thick septum may be mistaken for a deviation and will cause as much harm as a deviation, especially in a thin nose.

Fig. 8 shows a side view of the pharynx, together with a side view of the nose, mouth and larynx. The mouth of the Eustachian tube is shown with the overhanging lip above and behind. Extending down from the anterior margin is the naso-pharyngeal fold and from the posterior margin is the salpingo-pharyngeal fold.

Fig. 9 is a cross section and shows the Eustachian tube one and one-half inches long extending from the pharynx upward, backward and outward to the anterior and upper part of the middle ear. The outer third is in an osseous canal, the inner two-thirds is cartilaginous. The superficial layer of the mucous membrane of the entire tube is composed of ciliated epithelium. Beneath the mucous membrane of the cartilaginous part of the tube is a comparatively thick

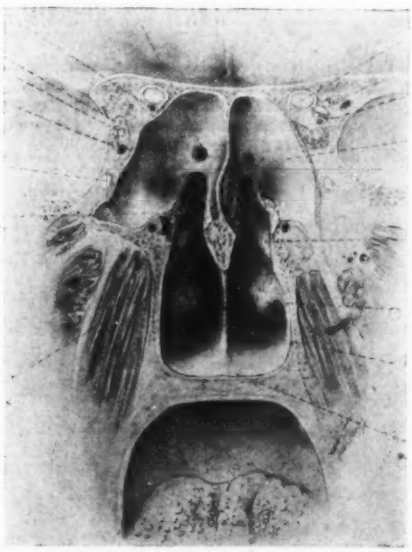

Fig. 7—Septum enlarged in its upper portion, with sphenoidal sinuses extending down into it. (From Loeb's Operative Surgery of the Nose, Throat and Ear.—Mosby.)

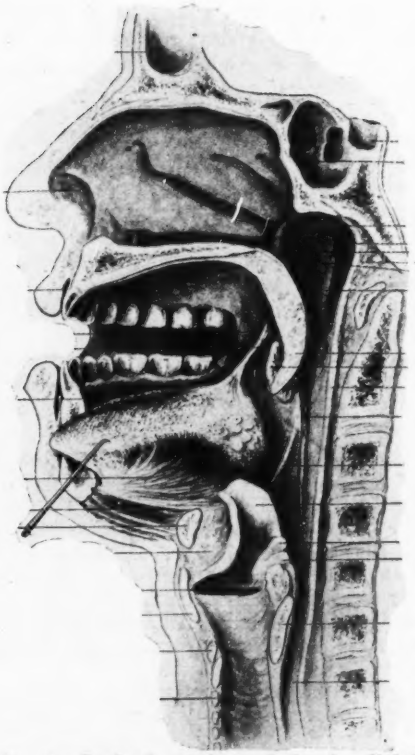

Fig. 8—Sagittal section of head, slightly to right of median plane; tongue has been pulled down. (Piersol's Anatomy by Lippincott.)

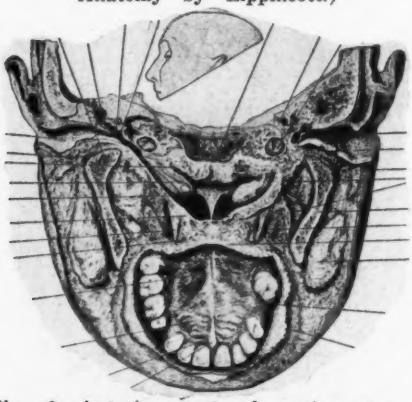

Fig. 9—Anterior part of section through head at plane shown in small outline figure, viewed from below; left Eustachian tube exposed throughout its length. (Piersol's Anatomy by Lippincott.)

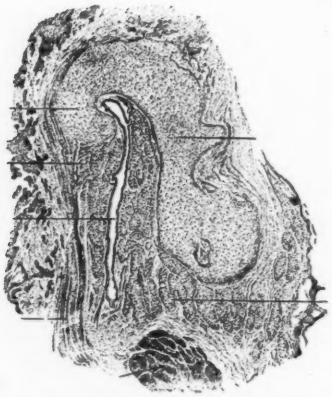

Fig. 10—Transverse section of cartilaginous Eustachian tube, magnified seven times. (From Piersol's Anatomy. —Lippincott.)

Fig. 11—Deviation of the septum, with convex enlargement of the middle turbinate. (From Gile's Nose, Throat and Ear.—Blakiston.)

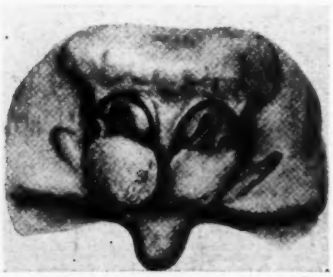

Fig. 12—Two hypertrophic tumors upon the posterior ends of the lower turbinals, as shown by the image in the posterior rhinoscopic mirror. (From Gile's Nose, Throat and Ear.—Blakiston.)

layer of adenoid tissue called the tubal tonsil. This tissue has in it large numbers of mucous glands that excrete viscid mucus.

A cross section of the cartilaginous part of the tube shows that the posterior, upper and a part of the anterior portion is composed of cartilage—an inverted hook, and the inferior portion and a part of the anterior is membranous. From the petrous portion of the temporal bone and from this membranous portion of the tube the tensor palati muscle takes its origin as is shown in Fig. 10. It passes down by the side of the tube at an obtuse angle and by its tendinous part winds around the hamular process, then upward, to be inserted into the hard and soft palate. The levator palati passes from the apex of the petrous portion of the temporal bone, just below the tube and is inserted into the soft palate, so that when the palate is elevated and the belly of this muscle swells it makes pressure upward and inward; thus the floor of the tube is raised and at the same time the tensor palati pulls the membranous part of the tube away from the cartilaginous part and by this action is the real dilator of the tube.

Normally, when at rest, the walls of the tube are in apposition, and when we swallow, just enough air passes in to ventilate the ear and air spaces in the mastoid and to equalize air pressure on the inner side of the drum. The tube also acts as a drain for the middle ear.

But with a deviated septum that occludes or partially occludes the nasal orifice and thereby interferes with free flow of air through the nose, there will be a compression of the air, illustrated by the air gun in the naso-pharyngeal space when the palate is raised and made tense.

Now, if the septum is bent, the mucous membrane on the septum will be thicker, the mucous glands longer and larger, the turbinates on the concave side of the septum will be larger, as shown in Fig. 11, with a thickened mucous membrane. Even the pharynx in many instances will have a thickened mucous membrane, which may extend up to and affect the tubal tonsil. In these cases the patient will have more coryza, more sinusitis and more pharyngitis, and by compressing the air when he swallows or forcibly blows his nose, more air and pathogenic micro-organisms will be blown through the tube into the middle ear.

Fig. 13—Antero-posterior radiograph showing septum deviated to the right large turbinates on the left; Case 321.

Fig. 14—Showing sinus entering an enlarged upper portion of septum, and deviation of vomer to the right far back.

causing inflammation therein, or the inflammation by continuity of tissue may extend to and involve the tubal tonsil and in this way the inflammacausing an flammation therein, or the tubinitis thus developed will close the tube. In that case, the air in the middle ear will be absorbed; following this we have negative pressure, exudative otitis media and hypoplastic otitis media in the order named. These catarrhal processes will weaken the mucous membrane so much that one is likely to have a suppurative otitis media at any future time during or following a coryza or pharnygitis. In most cases the suppurative otitis media will be on the side toward which the septum is bent.

In a study of 195 cases of ear disorders I have found a large per cent of suppurative otitis media and acute inflammation of the middle ear on the side toward which the septum

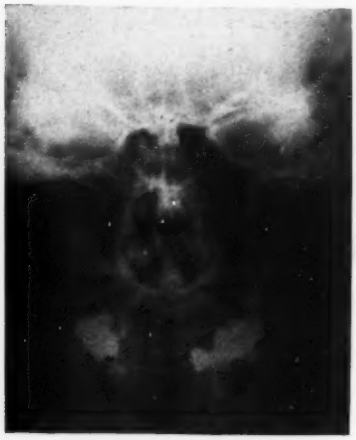

Fig. 15—Septum deviated markedly to the right.

Fig. 17—Marked deviation to the left of septum.

Fig. 16—Marked deviation of septum to the left.

Fig. 18—Marked deviation of the septum to the right.

was bent. Of course, the turbinate on the opposite side may be large enough to occlude the nasal orifice or it may be an S curve in the septum, or it may be large posterior tips. In either case you may find either or both ears affected. But when your adult patient comes in with an earache of suppurative otitis media, look for a septum bent toward the diseased ear and think of it as often as you do of adenoids in children causing the same thing. On the other hand, when you find a patient with a deviated septum it is well to do a submucous resection even if there are no ear symptoms, because he is very apt to have ear symptoms or even suppurative otitis media at any future time, as I will show you later.

Fig. 12 shows large posterior tips. I have had three cases of suppurative otitis media from this cause.

This pressure in the middle ear can be illustrated by closing one nostril and swallowing. It is more noticeable, of course, when you close both nostrils and swallow.

The following cases and illustrations are from my own records. The radiographs were made by Dr. H. L. Goss, of Phoenix.

Case No. 321—A high school teacher, age 33. She lived in Michigan until seven years ago, when she came to Arizona. She had more or less trouble with her ears since a child. When in her "teens" the pain in her ears was almost intolerable. She was treated almost constantly in Michigan by sprays, nose washes and inflations. She came to me first in 1917. I tried the same kind of treatment for some time before I could persuade her to have an operation. After making laboratory tests such as urine analysis, coagulation time and x-ray examinations (Fig. 13), which showed the septum deviated to the right and large turbinates to the left, I did a submucous resection. She has had no pain in her ears since nor has she had any other trouble except she is slightly deaf.

Case No. 713—(Fig. 14) Illustrates a sinus in the septum above and a deviation of vomer far back to the right. This is a young lady who holds a very responsible position. She had very severe headaches for which her physician could find no cause. She had no acute ear trouble, but the headaches were so severe she could not continue her work. Her mother has suppurative otitis media. I operated and found the sinus as shown here. I also found and removed a deviated vomer which extended down into the middle turbinate space. Headaches have been relieved and her work resumed.

Case No. 1028—(Fig. 15) Blacksmith. Septum bent far to the right.

Case No. 1484—(Fig. 16) Deaf mute. Septum bent far to the left.

Case No. 1747—(Fig. 17) An ex-soldier, age 35. Has had discharge from left ear for five years; it began in the army. Examination shows large perforation in the right drum, with a more or less constant discharge. The septum is deviated far to the left.

Case No. 1823 — Male, age 40, bridge builder. Had to quit heavy work two years ago because his strength would give way before he finished his day's work. One year ago some doctor in Kansas City made a diagnosis of tuberculosis. He is now taking the rest cure for tuberculosis. One year ago he had a discharge from the right ear, which has continued. Laboratory examination shows no tuberculosis from this discharge, but pneumococcus and catarrhalis. His septum is bent badly to the right.

Case No. 2014—(Fig. 18) Male, injured in mine explosion. Septum bent to the right.

Case No. 2041—Illustrates how blowing the nose hard when you have a deviated septum and a coryza will cause otitis media acuta. Miss H., age 22, developed a pansinusitis after a ride at night in an auto. Her physician had been treating her for a week for a cold and bronchitis. On the evening of the fourth day, after entering the hospital, she complained of earache, worse in the right ear. On making inquiries as to the probable cause, she said in the forenoon she

blew her nose hard, at the same time she heard a crackling noise in her ears. By seven p. m. the drum was quite red in the right ear and somewhat red in the left. She had a deviated septum to the right and a large spur on the left. Two and one-half years ago she was told that she should have a sub-mucous resection done. She refused at that time because she had never had any symptoms in the sinuses or ears.

RESUME

First—If you find a deviated septum, operate, even if your patient has no ear symptoms, for he is very likely to have at any future time.

Second—In adults with suppurative otitis media it is as necessary to look for deviated septa as it is to look for adenoids in children. If the front part of the septum is straight, look far back and look for the deviation toward the affected ear.

THE FALLIBILITY OF CLINICAL LABORATORY METHODS*

W. WARNER WATKINS, M. D., F. A. C. P., Pathological Laboratory, Phoenix, Ariz.

In choosing the fallacies of laboratory methods as a subject, the aim was to select one about which there would be no argument, at least as to the facts, although there may be some disagreement as to causes and remedies.

Clinical pathologists are in much the same position as the man who claimed to be the handsomest gent in his county. When asked how this could be proved, he replied that no proof was required, since he confessed it. So, it is not necessary to prove that laboratory results are oftentimes misleading and disappointing to the clinician, and, at rare intervals, technically inaccurate. The clinical pathologists admit this. The same thing is true of radiological results, but the present paper cannot deal with them.

Why are the results which come from the clinical laboratory so frequently unsatisfactory, disappointing, or even downright fallacious? We will confess, here and now that our argument will be an attempt to implicate the physician or surgeon seeking laboratory aid, as the chief offender when mistakes and fallacies result. In order to clear the ground for this argument, we will briefly, but frankly, discuss the other two sources of error in laboratory methods; namely, those due to technical mistakes and those due to faulty judgment on the part of the pathologist.

TECHNICAL ERRORS:— Any honest clinical pathologist is perfectly willing to admit the certainty of technical error, from time to time, in his work, and any reasonable minded clinician will overlook these when they occur. Among the laboratory procedures in which such fallacies, i. e., failure properly to handle specimens or calculate results occur, may be mentioned the complement fixation reactions, basal metabolism tests, cultural work, blood counts, and any quantitative determination. Pathologists have just as keen a realization as the clinician of the seriousness of technical errors and are more zealous in guarding against them, if we may judge from the slip-shod and careless manner with which specimens are secured and sent to the laboratory. In the Wassermann work, for example, every conceivable check, control and safeguard are thrown around the work in the laboratory and it is safe to say that a technical error will not occur in these tests once in a thousand times. I was once personally guilty of reporting a Wassermann negative in a telegram and positive in a confirmatory letter; the technical work was not faulty, the error being purely

(**Read before the Arizona State Medical Association, in annual session at Prescott, cott, June* 15-17, 1922.)

clerical. The clinician is perfectly justified in suspecting technical error in any report which is at variance with the clinical evidences in any particular case; but he is not justified in doing what he sometimes attempts to do, check the supposed error in a surreptitious manner. This point will be mentioned again in discussing remedies for the fallacies.

ERRORS IN JUDGMENT:— In those laboratory fields where special skill or knowledge is required, and in which the interpretation or report represents an opinion of a consultant choosing between possibilities, errors are bound to occur. Any reasonable minded practitioner will understand such errors of judgment and not cavil about them. Yet, in this field, infallibility is usually expected and an error of judgment is likely not to be forgiven. This class of work includes, especially, histological examination of tissues, differential blood examinations, identification of certain organisms, determination of end point reactions, interpretation of urinary sediments, and general conclusions drawn from the results of any laboratory procedure.

Our most uncompromising critics base their criticisms on errors in tissue diagnoses, although such errors are quite common with the most eminent pathologists. A professor of surgery from one of our most famous schools, speaking before a large medical gathering recently, cited a striking example of this; in their hospital, when a cervix is suspected of being malignant, sections are removed and submitted to two pathologists, those named by this surgeon being of world renown, each being the author of a standard textbook on pathology. In twenty-five per cent of the cases, the opinions of these two pathologists will be at variance, one saying "malignant" and the other "non-malignant" or vice versa. Any of us would unhesitatingly accept the opinion of these pathologists as final in a case of our own, yet one of them is wrong one fourth of the time in borderline cases; undoubtedly, one is sometimes wrong and then, again, the other is wrong. Why should the humble student who gathers his ideas from the textbooks of these men be expected to possess one of the attributes of Deity —infallibility? The point which is overlooked and which must be stressed is that the pathological report from a tissue section is an opinion and must be regarded in the same light as the opinion of the clinician who examines a chest and pronounces it tuberculosis, or the opinion of the surgeon who palpates a belly and says that underneath his finger is an inflamed appendix.

The third, and chief, source of error in laboratory fallacies arises from the misguided effort or neglect of the physician or surgeon in his attempts to utilize clinical laboratory aids. In three ways he may fail to secure the desired results:

(a) Failure to ask for the proper reactions.

(b) Failure to interpret correctly the results supplied him.

(c) Failure to appreciate the significance of an unusual or unexpected result.

(*a*) *Lack of a comprehensive knowledge of what is indicated, from the laboratory side, in a given case, and failure to use the pathologist in his proper sphere of a medical consultant, is probably the most fruitful source of unsatisfactory results.*

For example, most physicians, seeing a case of suspected typoid, have only one idea and that is to have a Widal test. If they have ever known, they have forgotten that typhoid is a bacteremia in the beginning, and 75 per cent of the cases will give positive blood cultures in the first week, while only 25 per cent give positive Widal reactions in this period. As the organisms disappear from the blood and localize in the intestine, or elsewhere, the agglutins begin to appear, and during the third week, 75 per cent will give positive Widal reactions. There is also a leucopenia, except in the paratyphoids which may have leucocytosis. A further important point

is that the more promptly the Widal appears the better is the prognosis. Many, many times have we heard the sarcastic remark that "the Widal was negative, but the patient had typhoid." *This is not a laboratory fallacy, but a fallacy of the physician who is blindly attempting to use methods the significance of which he does not appreciate, and regarding which he, too often, will not learn.*

One other illustration under this heading must suffice. An earnest and conscientious clinician of Phoenix struggled along for several days, recently, sending in isolated urine specimens and two phthalein kidney tests, the net result of which told him nothing. Then he did what he should have done in the outset—came and asked what procedures he should take to determine the functional integrity of his patient's kidneys—looking for an early arteriosclerotic nephritis. A comprehensive schedule of blood and urine examinations was outlined which he view askance, because it shifted many of the details of securing specimens upon him. However, from that schedule he can secure the desired information, and he will never secure it in any other way. Without using the pathologist as a consultant, he would still be in the dark as to how to proceed, because most of the tests outlined were entirely unknown to him, as they are to most general practitioners.

(*b*) *When results are supplied to the physician or surgeon, he may misinterpret them, or fail to apply them correctly to the clinical picture which his patient presents.*

This is due to the mistaken idea that laboratory results are dogmatic and uncontrovertible, and that clinical conceptions must be altered to meet the facts which emanate from the laboratory. To illustrate the falsity of this idea, we will briefly examine three of the common laboratory examinations, namely, sputum, culture for diphtheria, and the Wassermann reaction.

No well-informed internist accepts a negative sputum report as ruling out tuberculosis, but can a positive report be misleading? It can, and in more ways than the example cited recently by a staff officer of a large army hospital. When asked whether the sputum test did not eventually settle most of their doubtful lung cases, he replied that it was very unreliable, because the men would congregate in groups for gossip or games and each would spit into the most convenient cup and a specimen turned in might have sputum from several cases. Nowadays we have to consider the factor of a comparatively large number of men who desire to be diagnosed as tuberculous, and who realize the importance of securing a positive sputum test. It is also possible for a patient, without clinical tuberculosis, to cough up and supply occasional specimens containing numerous bacilli. On three occasions, we have examined specimens from patients without active tuberculosis, which showed bacilli in innumerable masses, so that the stained slide showed a macroscopic redness.

On the other hand, a sputum persistently negative for tubercle bacilli does not often enough cause the clinician to suspect, and have a search made for the evidences of other chronic lung infections, e. g.,—blastomycosis, aspergillosis, streptothricosis, spirochetosis, syphilis, etc.

In culturing the throat for diphtheria, physicians too frequently evade their responsibility and depend entirely on the laboratory report. A positive throat culture is NOT diagnostic of diphtheria. It seems surprising that, in view of the importance of diphtheria carriers, physicians should not realize that a positive throat culture does not relieve them of their responsibility of determining, clinically, whether the patient actually has diphtheria. May not a carrier have a streptococcus or catarrhalis angina with a membrane, and give a positive culture? It is not recommended that the average doctor withhold antitoxin from such a patient, because the average doctor has al-

lowed the laboratory dogmatism to atrophy his diagnostic ability in diphtheria. But every doctor can rightly aspire to be the exception who diagnoses diphtheria clinically, and who uses throat cultures chiefly for the value of the negative reports.

The Wassermann is the most commonly used and the least understood of all laboratory reactions; it is only approached in empirical mystery by its companion,—the collodial gold reaction. The Wassermann was introduced as a typical Bordet antigen-antibody reaction. Then we learned that the substance which we test for in luetic sera is not a syphilitic antigen, and we do not yet know what it is. We only know that some change occurs in the blood of patients infected with syphilis simultaneously with the general invasion by the spirochetes. This change is quantitative, weak at first, gradually increases in intensity and finally becomes very erratic in its appearance and disappearance during the later stages of the disease. Although the Wassermann reaction is usually reported as a quantitative result, the one, two, three or four plus has no direct reference to the virulence or extent of the infection.

Dealing, as we are, with an unknown substance which we know is characteristic of syphilitically infected blood, we cannot be certain that other diseases may not, at times produce the same substances in the blood. Our only proof against this is the accumulation of statistics, which shows that in hundreds of thousands of reactions. the syphilitic react positively and the non-syphilitic negatively. The syphilitic, when he temporarily has the upper hand of his infection. also reacts negatively. Since there have been cases of malaria. scarlet fever and other eruptions which gave temporary positive reactions, these sources of error must not be forgotten.

A positive Wassermann report of the two, three or four plus grade means that the patient's blood has the substances in it which syphilis produces. It does not relieve the clinician of his responsibility of eliminating rarer conditions which have been claimed to produce positive reactions. Even our own opinion that a two or three plus Wassermann, reported from our laboratory, means that the patient has syphilis, does not affect this responsibility, because this is only an opinion and subject to revision, should it be proven to be incorrect.

A known syphilitic, in any stage, has periods of varying length in which his blood reacts negatively, and in the late stages the negative periods may be quite long and the positive periods infrequent and brief. Therefore a negative reaction is never conclusive but only confirmatory, while a positive reaction is much more conclusive than several negatives on the same patient, but not to the point of absolute and dogmatic nullification of every clinical feature of the case. The clinician should demand some other evidence to buttress the positive Wassermann, and he will usually find it, if he hunts assiduously.

(*c*) *The fallacy of the laboratory result may arise from the failure of the clinician or surgeon to appreciate the significance of an unexpected result.* Two examples only will be given.

In the ordinary acute appendicitis, the usual belief is that a high leucocyte count is a measure of the gravity of the case, taking an arbitrary figure for the normal. Several errors may adhere to this conception. The patient may have a normal low count; an individual with a normal count of 5000 who jumps to 10,00 has just as much leucocytosis as one whose normal is 10,000 and jumps to 20,000. This will usually be detected in the differential count, which should always be made in connection with the total count. The differential will also detect the instances where the patient expresses his reaction by increasing the polynuclears without raising his total white count. On the other hand, both total and differential count may remain unchanged in the most dangerous type of appendicitis. The leu-

cocytes increase as the result of stimulation by toxins absorbed from the source of infection. If the circulation is shut off and the appendix is gangrenous, absorption may be stopped and there will be no change in leucocytes. The surgeon who lays his failure to detect a gangrenous appendix to the fallacy or incorrectness of the laboratory finding has forgotten his pathology, because the blood picture is true to the conditions which exist.

In the complement fixation for tuberculosis, we have a laboratory reaction which has definite limitations and certain definite values, neither of which are usually appreciated by the clinicians who call for this test. A recent case gave a negative fixation in our laboratory while the clinician himself found bacilli in the sputum. Upon receiving our report, he wrote back indicating that ours was evidently a fallacious finding, to prove which he gave the history of the case. It was clearly one of the three types in which a negative finding is to be expected. One of the first observations made by workers with this reaction was that patients who were not resisting their infection would give negative tests. The fundamental underlying the negative reaction is that the individual either has not had, or he has lost, his tuberculosis-resisting antibodies. He is either then non-tuberculous, or he is definitely tuberculous without resistance, or he is a tuberculous person who has evercome his infection. These are three widely separated conditions clinically and can easily be differentiated. If I were a practicing clinician I would use this reaction solely for its significance in prognosis, except for the diagnostic value of a negative reaction in an early lung infection.

In choosing illustrations for fallacious or supposedly erroneous results, we have not by any means covered the field of laboratory work, nor have we more than sampled our store of fearful and wonderful examples. We have tried only to indicate by examples, where the main faults lie, so that we might be started correctly in our search for remedies.

WHAT ARE THE REMEDIES? How may we lessen the errors and thereby increase the value of this indispensable department of medicine?

One answer is to be found in the methods employed by properly organized group clinics or staff hospitals. I am not, personally, favorable to the group clinic type of medical practice, believing that it is possible for the general practitioner to give better service to the individual patient than does the organized group. In only one particular does the work of the group or staff excel that of the individual practitioner; this is in diagnosis; it seems that this superiority is due in great part at least, to the more general and more intelligent use of the clinical pathologist as a consultant and diagnostician.

Should the general practitioner learn to use the facilities available to him through the pathologist, as a consultant, he can secure from this department of medicine all the benefit which the group secures.

Some practitioners have a very foolish and illogical habit of trying to check work performed under one pathologist by sending duplicates or subsequent specimens to another laboratory, often under fictitious names. It would be entirely comparable to this for a practitioner to send a patient with retinitis to three or four ophthalmologists, in order to see how many opinions he could accumulate, or for a patient to shop from one surgeon to another to see how many diagnoses he could secure, or what variety of prices he could get for a proposed operation.

The only successful way to secure reliable and satisfactory laboratory aid is to form intimate relations with a clinical pathologist whom you can trust, one whose opinion you are willing to accept, and one with whom you can frankly discuss results which are not satisfactory to you. If he cannot be found in Arizona, look for one elsewhere. Better send specimens to New York City than to seek results from a

source you cannot trust. By using such a pathologist as a consultant, asking his advice in doubtful cases about the advisable laboratory procedures and working in close co-operation with him, your results will be satisfactory.

The only other method is for the clinician to inform himself thoroughly with regard to the laboratory procedures in all conditions which come under his observation, ask intelligently for the reactions and tests desired, and interpret them in the light of the clinical picture,—an impossible performance.

Clinical laboratory methods are valuable just in proportion to the intelligence employed by the clinician in having them made, to the technical care in the laboratory in the actual reactions, and to the pathological acumen of the clinic pathologist in interpreting the results. They are fallible or misleading just to the extent that one or the other of these are neglected.

MINUTES OF THE EIGHTH ANNUAL SESSION OF THE MEDICAL AND SURGICAL ASSOCIATION OF THE SOUTHWEST, HELD IN EL PASO, TEXAS, DECEMBER 7, 8 AND 9, 1922.

Business meeting held Saturday afternoon, December 9th, at close of scientific program, Dr. M. K. Wylder, president, presiding.

In the absence of Dr. H. R. Carson, secretary-treasurer, due to illness, Dr. Wylder also acted in that capacity, assisted by Mr. J. H. MacWhorter of El Paso, Texas, who took the minutes of the meeting.

The secretary-treasurer's report was read and approved.

Applications for membership from fourteen general practitioners and one specialist in eye, ear, nose and throat work, were submitted.

It was moved by Dr. W. L. Brown of El Paso, Texas, seconded by Dr. James Vance, El Paso, that if the applications had been favorably passed upon by the Board of Censors, that the names be read and the applications approved. The motion was carried and the following were unanimously accepted as members:

Dr. Carlos T. Gutierrez, 345 South Stone Ave., Tucson, Ariz.

Dr. Rafael A. Ramos, Nogales, Sonora, Mexico.

Dr. Solon Lafayette Rhode, Pilares de Nacozari, Sonora, Mexico.

Dr. Hugh Max Helm, Apartado 38, Nacozari, Sonora, Mexico.

Dr. Leslie Carl Audrain, Mazatlan, Sinaloa, Mexico.

Dr. Nadir Zeinun, Box No. 718, Nogales, Ariz.

Dr. William Geoffrey Shultz, Tucson, Ariz.

Dr. Harry B. Gudgel, Phoenix, Ariz.

Dr. Henry T. Bailey, Phoenix, Ariz.

Dr. Samuel J. Hanks, Hurley, N. M.

Dr. James E. Redden, Casa Grande, Ariz.

Dr. Charles W. Harper, Reserve, N. M.

Dr. Eugene W. Fiske, Box 54, Santa Fe, New Mexico.

Dr. Otto E. Utzinger, Ray, Ariz.

Dr. Charlton Jay, Morenci, Ariz.

Dr. Wylder: Has the Committee on Necrology anything to report?

Dr. S. D. Swope, Chairman: We wish to report the death of Dr. A. G. Shortle, honored member of the Society and a former president, and have written suitable resolution to be inserted in the minutes. I move that this resolution be incorporated in the minutes by the secretary without reading, owing to the lateness of the hour. Seconded by Dr. W. L. Brown, El Paso, and motion carried.

The resolution follows:

"Whereas, the Alll Wise Ruler of the Universe has removed from the earthly sphere of his labors one of our honored members and valuable coworkers, Past President A. G. Shortle, Be it resolved that in the death of Dr. A. G. Shortle, this association sustains an irreparable loss and the southwest one of its most brilliant medical workers, that a copy of these resolutions be spread upon the minutes of this association and sent as an expression of the sympathy of this association to his bereaved family."

Dr. Wylder: We will now have the report of Dr. James Vance, as chairman of the Board of Managers.

Dr. Vance: In submitting the detailed report by Dr. W. Warner Watkins on the financial condition of the Southwestern Medicine, which is too lengthy to read owing to the other business to be transacted before adjournment, I merely wish to state that the Journal is now in a flourishing condition and that the Society should extend a vote of thanks to Dr. Watkins for the most excellent manner in which he has conducted the Journal.

It is moved by Dr. W. L. Brown, seconded by Dr. Waite, and passed by unanimous affirmative vote, that the report be accepted as a whole, without reading, and that the Society extend a vote of thanks to Dr. Watkins for the most excellent manner in which he has conducted the Journal.

Dr. Paul Gallagher: I move that we authorize the publication of this report in Southwestern Medicine.

Seconded by Dr. Waite.

Dr. W. L. Brown: I would be very glad if Dr. Gallagher would make that motion in a different way, as the report is so lengthy it would entail an enormous expense to publish it in entirety. I would suggest that the motion be amended so as to give authority to Dr. Warner Watkins to abstract the report and publish it in Southwestern Medicine.

Amendment was adopted by Drs. Gallagher, seconded by Dr. Waite and carried by affirmative vote.

Dr. Gilbert: I should like to move that a vote of thanks be sent to the El Paso County Medical Society for the very kind and excellent entertainlment and banquet givevn to the members of this Association.

Seconded by Dr. Swope and motion carried by affirmative vote.

Dr. Paul Gallagher: As long as thanks are in order, I move that a vote of thanks be tendered to Dr. Gilbert of Alamogordo for the two boxes of very fine apples which he has so kindly placed at our disposal.

Seconded by Dr. Waite and carried by affirmative vote.

Dr. Wylder: I think that thanks should also be extended to Dr. H. H. Stark of El Paso, Texas, for the very able manner in which he has gotten up and arranged the program of this meeting. The program has been a most excellent one and has demanded a great deal of hard work on the part of Dr. Stark.

By unanimous rising vote, thanks were expressed to Dr. Stark in appreciation.

Next in order of business was the election of officers and the chair asked that nominations be made for the office of president.

Dr. Paul Gallagher of El Paso, Texas, nominated Dr. J. R. Van Atta, Albuquerque, N. M., to be president; nomination seconded by Dr. Waite.

Dr. W. L. Brown: As the president of this Society two years ago was an El Paso man, and last year, a man from Albuquerque, I would like to nominate one from Arizona and as I do not believe it is good policy for us to continually elect the president from the large towns, nor is it good policy for us to elect two years in succession a president from the same town, I wish to nominate Dr. R. D. Kennedy of Globe, Ariz., for this office.

Seconded by Dr. H. H. Stark.

Dr. S. D. Swope of El Paso, Texas, moved that nominations be closed and that ballot be cast. Seconded by Dr. W. L. Brown.

Dr. Wylder: As there are two candidates for the office it will be necessary to prepare ballots. I feel that I should say at this time that when I left Albuquerque, Dr. Van Atta came to me and stated that he did not feel, in view of his physical condition, that he could accept the office were it tendered him. I will ask Drs. Sexton and Vance to distribute and collect the ballots.

This was done by Drs. Setxon and Vance, the tally revealing Dr. Kennedy's election by small majority and Dr. R. D. Kennedy, Globe, Ariz., was therefore declared president for the ensuing year.

Dr. H. H. Stark of El Paso, nominated for first vice-president, Dr. J. R. Van Atta of Albuquerque, N. M., seconded by Dr. W. L. Brown of El Paso. Dr. Vance made motion that the nominations be closed and the secretary instructed to cast the unanimous ballot of the Association for Dr. J. R. Van Atta, which was seconded by Dr. W. W. Waite of El Paso. There being no discussion, the motion was put and carried and the secretary was instructed to cast the unanimous ballot of the Association for Dr. J. R. Van Atta for first vice-president.

Dr. W. W. Waite of El Paso nominated Dr. J. R. Gilbert of Alamogordo for second vice-president. The motion was seconded by Dr. W. L. Brown of El Paso. Dr. S. D. Swope of El Paso moved that nominations be closed and that the secretary cast the unanimous ballot of the Association for Dr. J. R. Gilbert of Alamogordo for second vice-president, and Dr. James Vance of El Paso seconded the motion. There being no discussion, the motion was put and carried and the secretary instructed to cast the unanimous ballot of the Association for Dr. J. R. Gilbert for second vice-president.

Dr. Paul Gallagher of El Paso nominated Dr. H. R. Carson of Phoenix, Ariz., for secretary-treasurer.

Dr. H. H. Stark: It is my understanding that Dr. Carson is too ill to attend to the duties of the office and on account of his physical condition would not want to undertake it.

Dr. M. K. Wylder: Dr. Watkins recently notified me that Dr. Carson is well enough to do the work and is willing to continue as secretary. Dr. Watkins desires if possible to have a Phoenix man for this office, as he has quite a list of names of men in Mexico for membership and wishes to be able to keep in close touch with the secretary, which would be impossible were the secertary not a Phoenix man.

The motion was seconded by Dr. W. L. Brown, El Paso. Dr. W. W. Waite, El Paso, moved that nominations be closed and that the secretary cast the unanimous ballot of the Association for Dr. H. R. Carson, for secretary-treasurer, which motion was seconded by Dr. James Vance. There being no discussion, the motion was put and carried and the secretary instructed to cast the unanimous ballot of the Association for Dr. H. R. Carson for secretary-treasurer.

In line with previous policy, as suggested by Dr. H. H. Stark, El Paso, the retiring president, Dr. M. K. Wylder, was nominated for the position of trustee. The nomination was seconded by Dr. James Vance, E. Paso. There being no further nominations, the ballot was put viva voce vote and Dr. M. K. Wylder was duly elected trustee.

Dr. Wylder at this point appointed Dr. James Vance and Dr. W. L. Brown, of El Paso, as a committee to induct the new president into his chair and the rest of the meet-

(*Continued on page* 57.)

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AN EXPLANATION

The issues of this journal for January and February are about two weeks late, owing to difficulties which could not be obviated. It is expected that we will be back on schedule with the March issue, and thereafter. The journals are due to be mailed between the fifth and tenth of each month.

OUR STATE MEETINGS IN JUNE

Both the New Mexico Medical Society and the Arizona State Medical Association have decided to hold their annual meetings just preceding the San Francisco convention of the American Medical Association. The New Mexico meeting will be at Albuquerque, June 19, 20 and 21. The Arizona meeting will be at Grand Canyon, June 21 and 22, the Association officials having recently decided to take the meeting into the northern district instead of holding it at Phoenix, as originally planned.

These two state meetings will, therefore, be held at the same time, altering an old custom of choosing different times so that delegations from one state might attend the meeting of the sister state. The societies felt that they should, this year, yield their custom and sacrifice their own society interests, in order that the American Medical gathering might benefit. Both Albuquerque and the Grand Canyon will offer attractions for eastern visitors, and many will stop over for these state meetings. Further, the state conventions will tend to gather up their own members and send them on, in a body, to San Francisco.

MARICOPA COUNTY MEDICAL SOCIETY

The first meeting of the Society, for the year, was held on January 6th, with twenty-four members present. The meeting was preceded by a dinner, held at the Professional and Business Women's Club, on East Monroe St.

In the business meeting, President Holmes was elected to represent the Society and the medical profession on the council of the Advertising Club. Reports of the auditor, Dr. H. P. Mills, was received and approved. It was moved, seconded and carried that a membership committee be appointed. The president reserved announcement of this committee.

The first paper on the scientific program was by Dr. D. F. Harbridge, on "Intraocular Tumors." The paper is printed in this issue of SOUTHWESTERN MEDICINE.

Dr. Bakes opened the discussion, citing several cases of glioma which he had observed. Dr. Reese continued the discussion, noting that the ordinary tumors are gliomata or sarcomata of the choroid. Dr. Bailey discussed some cases of extraocular tumors. Dr. Harbridge answered Dr. Garrison, with regard to radiotherapy, that this method has been used by Komoto with encouraging results. Dr. Yandell cited case of a patient who was supposed to have had glioma, who recovered.

The next paper on the program was by Dr. H. T. Bailey, on "Deviated Septa as a Cause of Suppurative Otitis Media." This paper, which had been presented to the Southwest meeting in El Paso, is printed in this issue of SOUTHWESTERN MEDICINE. It was illustrated by lantern slides.

Dr. Reese opened the discussion by recalling the tendency of specialists to magnify the importance of lesions in their field to the rest of the body; but in this type of lesion, too great emphasis cannot be made. Dr. Yandell thinks there are only two reasons for doing the submucous resection, namely, obstruction and reflex neurosis. He does not think that because the middle turbinate touches the septum anywhere, even though this is abnormal, that this is sufficient reason for operating. Dr. Bakes

thought that any deviation would favor infection of the middle ear. Dr. Harbridge disagreed with the author's conclusions, and does not think the septum should be touched unless there is a distinct reason for it. Dr. Smith discussed the subject of head infections as related to distant diseases, and not as a specialist looking at one limited portion of the body. Recalls the relation between infected sinuses and lung infection, stating that he has seen many supposed tuberculous people—some with positive sputa—whose trouble was metastatic from the sinuses. Dr. Holmes does not agree that a positive sputum could ever be disregarded in lung diseases. Dr. Bailey closed the discussion by calling attention to his conclusions and the reasons for these, which had been lost sight of in the discussion.

MARICOPA COUNTY MEDICAL SOCIETY

(Dr. H. L. Goss, Secretary, Phoenix.)

At the regular bi-monthly meeting, on January 20th, the first paper was by Dr. Francis H. Redewill, subject, "Twelve Cases of Psoriasis Cured by Goat Glands."

Clinical cases were presented by Drs. O. H. Brown and Earl M. Tarr, and their interesting features discussed.

Motion was made by Dr. Bannister, that the Legislative Committee of the State Association be requested to urge the appointment of a full-time health officer; seconded and carried.

Motion was made by Dr. Wilkinson that a committee be appointed to compose and draft advertisements to be placed in the Journal of the American Medical Association by the Salt River Valley-Phoenix Ad Club. Seconded and carried.

At the bi-monthly meeting of February 3rd, the first paper was by Dr. Mary L. Neff, on "Pathological Liars."

The second paper was by Dr. Harlan P. Mills, on "Familial Muscular Dystrophy" and was illustrated by lantern slides showing photographs of the patients and radiographs of joints and skulls.

The following new members were elected: Drs. A. A. Shelley, of Phoenix; S. W. Hawkins, of Sacaton, Ariz.; E. W. Allen, of Sacaton, and J. A. Copeland, of Wickenburg.

The advisability of holding the state association meeting at the Grand Canyon just prior to the San Francisco meeting of the American Medical Association was discussed; since it was the desire of the Association officials that this be done, the Maricopa County Society relinquished the meeting in favor of the Canyon plan, with the understanding that the 1924 meeting should come to Phoenix. Motion was made to this effect and carried.

Dr. E. B. Briscoe, chairman of the Committee on Public Health of the Senate, spoke to the Society on Senate Bill No. 8, which aims to amend the present health law. The Legislative Committee was asked to confer with him and draft a new bill which would provide for a full-time health officer.

ST. JOSEPH'S HOSPITAL STAFF MEETING

On January 7th, the annual meeting of the staff was held, meeting at a dinner which was served by the Arizona Club dining roof staff, with the compliments of the Sisters. About twenty-five members of the staff were in attendance. Dr. Harry T. Southworth, president of the Arizona State Medical Association, was a guest. Following the dinner, the annual election of officers was held, this being by informal ballot. The confidence of the staff members in the organization work of the past two years was shown by the re-election of Dr. Win Wylie as chairman, and of the five members of the Executive Committee, to serve for their third year. Miss Jacobs was elected secretary by viva voce vote.

Three interesting cases were selected for discussion, as follows:

Case 1—Patient of Dr. M. J. Keeney. Male, age 60, sent to Phoenix from Kansas with diagnosis of tuberculosis of the lungs, having had rapid loss of weight, cough and expectoration. The physical examination which was presented by Dr. Keeney, had suggested malignancy, and this was definitely confirmed by the x-ray examination. Sputum showed no tubercle bacilli, urine was negative. Patient died in the hospital, and autopsy report by Dr. Mills was that of diffuse carcinoma of the lungs and of many other organs. The point of interest was with regard to the primary origin of the carcinoma; there was a lesion in the tail of the pancreas, and one in the prostate, both of which were old and possible primary foci. Dr. Mills' opinion inclined toward the prostate.

Dr. Watkins opened the discussion by giving lantern slide illustrations of several other cases of lung malignancy seen in the hospital, and citing the points of difficulty in the diagnosis. Illustrations were shown of the conditions which might be confused—such as sarcoma, blastomycosis, pneumonoconiosis, miliary tuberculosis, lung syphilis, benign tumors of the lung, post-influenzal consolidations, etc.

Dr. Bannister discussed the significance of a persistently negative sputum. He inquired of Dr. Mills whether the primary lesion might not be determined from the ar-

rangement of the epithelial cells in the tumor. Dr. Mills replied that this would help.

Case No. 2—A school boy, patient of Dr. McIntyre, seen by Dr. Smith in consultation. Onset six months ago, when he began to feel weak and tired; started school on Sept. 1st, and had an infected eye; after one month stopped school with chills and fever. On Dec. 19th was extremely nervous, with a "fainting spell" after dinner. At this time there was a slight paralysis of the entire left side. On Dec. 23rd acute chorea was diagnosed; entered hospital on the 27th and died on the 30th, being in almost complete coma, with convulsions.

The blood count was 16,000, with blood culture negative. Urine had a trace of albumen, with findings otherwise negative. Spinal fluid was not examined until day before death, showing then 10 cells per cu. m. m., had a moderate excess pressure, no organisms, and three plus positive Wassermann.

In the absence of Dr. McIntyre, the discussion was presented by Dr. Smith, who described the symptoms on which diagnosis of chorea was based and criticised the failure to get the report of the Wassermann in time to be of value in the diagnosis.

Dr. Mills discussed the symptoms of chorea and stated that the ability to perform movements of volition would, in itself, rule out chorea. The spinal fluid examination should have been requested earlier, as there were clear indications for this procedure from the very outset of the condition.

Dr. Watkins called attention to the necessity of adopting some other system than the co-operation of the physicians and surgeons, for the securing of autopsies, and suggested that some one connected with the hospital management undertake to do this.

Case No. 3—Patient of Dr. Fred J. Holmes. Female, age 30. Had typhoid at 15; after a year had frequent attacks of severe pain, lasting from a few minutes to one hour and recurring intermittently for several years. Last year had similar attacks. Had pneumonia in 1921, after which sputum was positive for tubercle bacilli. X-ray and physical findings showed tuberculosis of left apex. Eighteen hours prior to admission had severe epigastric pain and morphine was given; temperature normal; pulse 110, pain in back; none in lower abdomen. White cells 25,000. Diagnosis of acute cholecystititis.

Dr. Holmes discussed the symptoms and diagnosis, which clearly pointed to the gall-bladder. Operation showed a practically normal gall-bladder, with a walled off tuberculous abscess and general tuberculous peritonitis.

BACILLUS ACIDOPHILUS AND INTESTINAL PUTREFACTION—While the administration of soured milk products is at times beneficial, the cause of this beneficial action is still undetermined. The belief that the Bulgarian bacillus can be permanently implanted in the intestinal tract and that this implantation is responsible for the effects is no longer tenable. Of late attention has been called to the effects of the administration of milk cultures of Bacillus acidophilus which is stated to be a normal inhabitant of the human intestinal tract.

It is reported that this bacillus may be successfully implanted in the intestinal tract provided a suitable pabulum is provided. It has been assumed that the acidity of putrefactive organisms would be almost entirely suppressed by a change of the flora produced by the administration of milk containing cultures of Bacillus acidophilus and that with such implantation, the somewhat hypothetical toxic products charged with harm to the body might also be expected to be suppressed. If indican excretion, however, may be taken as an index of intestinal putrefaction, it now appears that implantation of Bacillus acidophilus in the intestine does not lower the putrefactive process.

This suggests that favorable clinical effets produced by the administration of lactose cultures of Bacillus acidophilus are not primarily dependent on decreased production of the antecedents of indican. (Jour. A. M. A., Jan. 20, 1923, p. 186.)

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ing was then in charge of the new president, Dr. R. D. Kennedy of Globe, Arizona.

Dr. M. K. Wylder of Albuquerque nominated El Paso for the next meeting in 1923, the ninth annual session. The nomination was seconded by Dr. W. L. Brown of El Paso. There being no other nominations, El Paso was selected for the next meeting place.

There was considerable informal discussion about the time of holding the annual meetings and by unanimous consent it was finally agreed to leave the matter as it now stands—in the hands of the trustees—with the suggestion that the present custom of holding the meeting in the early part of December be continued.

No further business being brought before the Association, on motion of Dr. W. L. Brown of El Paso, seconded by Dr. James Vance, and carried by affirmative vote, the meeting was adjourned at 5:45 p. m.

"ENDOCRINE AND OTHER ORGANOTHERAPEUTIC PREPARATIONS"

is the title of a booklet just issued by Armour and Company. This pamphlet contains articles upon the products that the title covers. A copy of it will be mailed to any physician or pharmacist who asks for it.

THE MEDICAL PRACTITIONER AND THE AMERICAN SOCIETY FOR THE CONTR AL OF CANCER

J. E. RUSH, F ield Director,
American Society for the Control of Cancer.

Among the most important public health problems confronting the medical profession today is that of cancer control. It is possible to make a division of public health movements into several groups, depending on the amount of educational work which must be carried out before the program can be successful. In one group we find diseases as Typhoid Fever, Malaria, and Yellow Fever which may be controlled simply by educating a few individuals who possess the necessary power in a community to place the program in operation after they have been shown the desirability of such a procedure. This type of activity is relatively simple because it depends upon the education of a few individuals. Unfortunately, the diseases that can be controlled in this manner are among those which usually do not exact from the populace the greatest economic toll.

Another group of diseases may be effectively dealt with through police power and here again we depend on the education of a few members of any given community. For the most part the diseases which may be controlled by this means we refer to as "communicable" and usually they can be very effectively dealt with by placarding, isolation and quarantine.

There is another group of diseases which are not communicable and in which the education of but a few members of the community is not sufficient to affect the mortality rate. Here, we find cancer, which depends for its ultimate control upon the education of every single adult of the community, with reference to the early signs and symptoms of the disease, for only in its early stages is cancer curable. With the present attitude of the public to seek medical advice only when they are aware of distressing symptoms, they must be told that early cancer is usually painless and that proper treatment cannot be instituted until they have sought the advice of a physician.

The medical profession is interested in all types of medicine whether preventive or curative. As a matter of fact, there really is no hard and fast line of demarcation between preventive and curative procedures any more than there is a dividing line between the metals and the nonmetals. The medical profession is interested in all problems of public welfare, but when it comes to matters concerning public health they are the only ones who through tradition and training are capable of handling the problems which present themselves for solution. It is the only profession at the present time that is engaged in real preventive medicine and it is the profession of election for this type of work. Usually public health movements have been initiated by the medical profession, but in many instances the work has passed into the hands of the laity because the members of the medical profession have been preoccupied with other important problems.

What we have said with regard to the attitude of the medical profession towards public health work clearly emphasizes the need of control by the medical profession of all public health movements. The profession is particularly interested in the problem of cancer control not only because it is of great humanitarian interest, but because of the further fact that cancer is one of those conditions in which it has been clearly demonstrated that the medical profession is the only one capable of offering a solution. While sanitary engineers, epidemiologists and others may be of great value in the conduct of specific public health movements, their training and experience does not make them capable of helping in cancer control. The slogan of the American Society for the Con-

trol of Cancer that "Early cancer is curable if you will but consult your medical practitioner in time," again clearly emphasizes that the physician is the only one capable of reducing the mortality from cancer.

Another interesting feature of the movement for cancer control is that the establishment of diagnostic clinics during National Cancer Week is of some educational value to certain members of the medical fraternity because important points of differential diagnosis between early carcinoma of tongue, for example, and primary luetic ulcer, are demonstrated. The cancer movement in this respect, is one of the few that attempts to repay the physician for the great effort he has expended in its behalf.

It has been claimed by some of the unthinking individuals among the laity that preventive and curative medicine are diametrically opposed. They do not realize that there is, in the last analysis, but little difference between preventive and curative measures. For example, all physicians take blood pressures and make urine analyses during the course of a pregnancy and not by the wildest stretch of the imagination can this be interpreted as a curative measure—it is a preventive measure pure and simple.

Through various educational movements which are now being conducted to instruct the public with regard to conditions which are definitely preventable, the great mass of the people are gradually coming to realize that the physician must be looked upon as a teacher and advisor rather than one who is to be consulted only when symptoms of a diseased condition have manifested themselves. The physician, too, realizes that this teaching attitude is appreciated by the public, for by this means he is able to prevent premature deaths among his clientele. Not only does he spare the patient in question for future usefulness but, more important, he does not divorce the rest of the members of that particular family. The physician realizes that the most appreciative patient is one who, through early advice and proper instruction, has been saved from untold suffering and an untimely death.

All health movements if properly managed and ethically controlled by the medical profession will not only eliminate certain objectionable features present in some of them as now conducted by the laity (who have no appreciation of medical ethics), but such activities will help consolidate the medical profession against the ever increasing influence of the cults. It is true, that we as a profession, do not heartily approve of certain public health movements now in progress, because they do not conform to our ethical code. If they were controlled by the medical profession this objection would be removed.

It must be realized that the cults never would have existed had the medical profession taken a definite stand against them, but realizing that "Imitation is the sincerest flattery," we have allowed them to go on—to exploit the public until even the great mass of the people has recognized the lack of sincerity which prompted the various movements.

The proper extension of these ideas relative to organization in order to control public health problems contains within it the answer to the proponents of that most preposterous type of activity known as "State Medicine."

The organization for cancer control is dependent upon the activities of the medical profession; and therefore the units upon which the organization is built are the State and County Medical Societies. The whole movement has been endorsed and approved by practically all national, sectional, state and local, medical and surgical bodies, because it is entirely controlled by the profession itself. In the perfected organization for cancer control, we have the ground work to handle other problems of a public health nature; be they ones already in existence or future ventures. By proper organization, too, we shall be in a stronger position to abort detrimental legislation, whether directed at us or to legalize the ignorant cults. A

public health problem directed solely by physicians will do more to properly organize the medical profession than any other type of activity.

It has been pointed out that if we do not seriously consider the "scientific attainments" of the cults, then every preventable death is a reflection on us. It has been claimed that the fact that the patient did not come early enough to us for examination and advice is no excuse; that we, as the only logical profession engaged in the practice of the healing art should have the undivided confidence of the public to such an exetnt that they will report to us what are very trivial matters and thus give us opportunity to institute proper procedures in time. In the vernacular of the street, it has been suggested that we should "sell ourselves to the public"; which, in other words, means that there is at the present time a great need of ethical publicity on the part of the profession. It really seems that this would, to a very great extent, increase our usefulness to the community in which we practice. If this is true, then no physician can be so busy that he cannot devote a small amount of time to help in the campaign for cancer education, because by so helping, he is not only advancing his own usefulness to his community but is of the greatest value to his medical brothers and to his profession.

A few members of the laity have explained what they have interpreted as apathy on the part of certain of the medical profession toward preventive medicine, by emphasizing the fact that preventive medicine was diametrically opposed to curative measures. We, of the medical profession realize the fallacy of this. Let us consider an analogy from the field of engineering. Suppose that ten engineers were bidding on a contract to construct a road between two adjacent cities. Only one, could be successful; but would the others put obstacles in the way to prevent him from competing his task? The answer is apparent. Thev would not; for they would realize that when the public had seen the value of this road, they would demand similar ones in all other directions and hence the other engineers would have an opportunity to build some of them. I realize that the above example compares a business conducted purely for monetary return, to a profession which interests itself chiefly with humanitarian efforts, but the very few of the public who believe that all persons are actuated by ulterior motives should be answered. The good roads analogy applies directly to medicine, for the medical practitioner realizes that each time the public is convinced that it is unnecessary for them to suffer with various ailments they demand the removal of others which heretofore they patiently tolerated. An example may illustrate this point:

A friend of mine who for many years was almost an invalid from recurrent attacks of what was then diagnosed as "inflammation of the bowel" and for which, at that time there was no known cure, was simply forced to allow the condition to exist which undermined his health and lowered his efficiency. At the present time because of the knowledge of the laity concerning chronic appendicitis he would know that an operation requiring him to be at a hospital for but two short weeks, would give him complete relief, and enable him to resume his life's work at a greatly increased efficiency.

Our medical ethics instituted at the time of Hippocrates admit of no change; but our interpretation of them may be broadened to meet the changing conditions; especially those which have been brought about during the past two or three decades. It may be necessary to change our ideas regarding proper non-personal publicity for the medical profession as a whole and for our state and county societies. In this connection I am reminded of the story of the young color-bearer at Gettysburg who had advanced somewhat ahead of the lines, and when ordered back to his position by his command officer replied, "Bring the line up to the flag."

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BOOK REVIEWS.

OPHTHALMOSCOPY, R ETINOSCOPY AND REFRACTION. By W. A. Fischer, M. D., F. A. C. S., Chicago, Ill. Published by the author, 31 North State street, Chicago, Ill. Price, Cloth $4.00.

This publication presents in a very concise workable way the principal points represented in the title and serves admirably for teaching the preliminaries of those subjects.

It is evidently intended for students and general practitioners who are beginners in this line of medical investigation, and can be recommended to those desiring to secure a preliminary training in these very important branches of medicine even without a teacher.

Dr. Fischer's ingenious method of constructing a schematic eye, with the cuts of pathological conditions placed behind it to serve as a fundus, can be recommended. The cuts of all the pathology represent as nearly as possible fundus changes, with a few exceptions. His points on retinoscopy and refraction emphasize the difficulties and give directions as to how to overcome them. H. H. S.

SYPHILIS. By Burton Peter Thom., Visiting Syphilologist to the Hospitals of the Department of Correction, Welfare Island, New York City. Illustrated with 69 engravings. 525 pages. Lea & Febiger, Philadelphia and New York. Price $5.50.

In clear and concise style the author tells, as he says, "much that we now know about syphilis—to tell all would be impossible." He deprecates the concept that syphilis is largely a skin disease and keeps in mind the statement of Ricord with which the book is introduced; "I have been accused of seeing syphilis everywhere, but I am afraid I have not seen it often enough."

As regards treatment the author prefers the use of mercury by inunction and intravenous injection to the other methods. He prefers neoarsphenamine to the older preparation believing that its inferior therapeutic potency is automatically obviated by the use of a larger dose, i. e. .9 gm. neoarsphenamine is equivalent in effect to .6 gm. arsphenamine. The chapter on treatment is closed with the following advice: "Attack, always attack, do not be afraid, do not defend. Attack, always attack, never wait, but march to meet the enemy at the gate. So will you conquer syphilis."

The existence of a neurotropic strain of treponema is regarded with doubt; instead the writer believes that involvement of the central nervous system indicates a *locus minoris resistentiae.*

The author's broad knowledge of the literature of syphilis from the time of Fracastorius to the present is in evidence throughout the work and his own wide experience on almost every page. It is a pleasure to read a medical work in which personal opinions and observations occur so frequently. The work is readable and interesting and will prove of great practical value to any physician.

E. A. D.

The X-Ray Diagnosis of Diseases of the Lungs. Dr. Amedee Granger, Professor of Radiology, Post-Graduate School of Tulane University, New Orleans, La. New Orleans Med. & Surg. Jour., Vol. 75, No. 3, Sept., 1922.

Normal lung tissue can with accuracy be detected on the x-ray film and the radiologist must become familiar with its characteristic density and normal lung markings.

Excluding acute pneumonic infections, tuberculosis is the most common lesion we find, it must be excluded before any other diagnosis can be substituted. The earliest recognizable lesion of adult tuberculosis is the Dunham fan, usually found in the apical region along the first or second interspace branches. It is formed when the inflammatory exudate at the point of inoculation of the tubercle bacilli, fills the air cells and terminal bronchus of a secondary lobule. Dunham believes that the presence of two or more of these fans of different densities in the location mentioned constitute a lesion which is pathognomic of tuberculosis. After the apical lesions the most common is caseous broncho-pneumonia which usually first invades the upper lobe above the second interspace; then the upper portion of the lower and median lobes; then the lower part of the upper lobe. It may become confluent. Both lungs may be involved but not usually to the same extent. Acute miliary tuberculosis presents a characteristic picture, with fine studdings more or less evenly distributed throughout both lung fields; the history and clinical picture are necessary to differentiate these from pneumoniosis. Basal tuberculous lesions without apical lesions are rare, occurring mostly in children.

Syphilis:—Watkins has found 172 cases of pulmonary syphilis in 6,500 examinations of the lungs and heart, and 209 cases of syphilis complicating advanced tuberculosis. The types of radiographs may show the following lesions: gummata with syphilitic peribronchial densities; syphilitic peribronchial densities; broncho-stenosis with lung collapse and marked deformity. Syphilis and tuberculosis may occur simultaneously in the same chest.

Malignant Tumors:—Primary sarcoma is usually lymphosarcoma and is shown as a large single shadow; secondary sarcoma may appear as large or small, usually multiple, rounded circumscribed shadows. Metastatic carcinoma gives fairly regular shadows, apt to be limited to the hilus region. Primary carcinoma is less frequent, but presents a characteristic picture. The invasion may be either infiltrative or miliary.

Cysts:—These may be either echinococcic or dermoid.

Pneumoconiosis:—Jarvis has shown five stages of pathologic lesions in granite cutters; (1) Increase in hilum width and density; (2) increase in trunk marks; (3) densities at the branching of bronchi; (4) appearance of fans indicating accumulation at the periphery; (5) homogeneous haze at the lung periphery.

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